

REMARKS

This is intended as a full and complete response to the Office Action dated March 10, 2006, having a shortened statutory period for response set to expire on June 10, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-46 remain pending in the application and are shown above. Claims 2-5, 27-30 and 40-46 have been withdrawn by Applicant and stand withdrawn by the Examiner. Claims 1, 6-12, 14-26, 31-37 and 39 are rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 6, 8-10, 21-24, 31-33 and 39 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Maas, et al. (US Patent 6,549,488 B2, hereinafter *Maas*).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

In this case, *Maas* does not disclose "each and every element as set forth in the claim." For example, *Maas* does not disclose a diaphragm attached to a housing, wherein the diaphragm *transmits acoustic pressures from a fluidic media to the liquid* (enclosed in the housing), and an optical sensor positioned *within the liquid for sensing the acoustic pressures in the liquid*, as recited in independent claim 1.

In the Office Action, the Examiner refers to FIG. 5A of *Maas* and the corresponding description as teaching the elements recited in claim 1. Specifically, the Examiner refers to sensing mandrel (122) of *Maas* as forming a housing enclosing a

liquid (in channel 128) and refers to the optical fiber (130) wound around the reference mandrel (126) of *Maas* as forming an optical sensor positioned within the liquid. The Examiner also refers to the flexible membrane (134) of *Maas* as forming a diaphragm that transmits acoustic pressures from a fluidic media to the liquid (enclosed in the housing) to be sensed by the optical sensor.

Applicants respectfully submit, however, that the flexible membrane of *Maas* does not transmit acoustic pressures from the fluidic media to the liquid, as recited in claim 1. In fact, the flexible membrane is prevented from transmitting acoustic pressures to the liquid by tube 132. While the tube 132 allows equalization of *hydrostatic pressure* from a region enclosed by the flexible membrane, "its small diameter acts as a low-pass filter by excluding or filtering out the seismic signal pressure wave from entering flooded channel 128." See column 9, lines 9-20.

Because acoustic (seismic) pressure waves are prevented from being transmitted to the fluid contained within the channel 128, the reference mandrel 126 can not sense the acoustic pressures. Thus, the reference mandrel 126 can not be construed to be "an optical sensor positioned within the liquid for sensing the acoustic pressures in the liquid" as recited in claim 1.

Accordingly, Applicants submit claim 1, as well as those claims that depend from claim 1, are allowable and respectfully request withdrawal of this rejection with respect to these claims.

Claims 21 and 33 include limitations directed to an optical sensor (or optical fiber sensor) positioned on a mandrel within the liquid for sensing the acoustic pressures in the fluidic media. For reasons discussed above, Applicants submit *Maas* does not teach such limitations. Applicants further submit that *Maas* does not teach the recited limitations that the mandrel be non-rigidly coupled to the housing (per claim 21) or contain at least one feature for routing an optical fiber (per claim 33).

Accordingly, Applicants submit claims 21 and 33, as well as those claims that depend therefrom, are allowable and respectfully request withdrawal of this rejection with respect to these claims.

Claim Rejections Under 35 U.S.C. § 103

Claims 11, 12, 14–16, 18, 19, 25, 26 and 34–37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maas et al.

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Maas et al.* as applied to claim 1 above, and further in view of *Jerman (U.S. Patent 5,209,118)*.

These claims each depend, directly or indirectly, from claims 1, 21 and 33, which Applicants submit are allowable for reasons discussed above. Thus, Applicants submit these claims are also allowable and request withdrawal of this rejection with respect to these claims.

Allowable Subject Matter

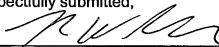
Claim 13 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

While Applicants agree these claims are allowable, Applicants also submit the base claims from which these claims depend are also allowable, for reasons discussed above. Thus Applicants respectfully request withdrawal of this objection.

Conclusion

The references cited by the Examiner, alone or in combination, do not teach, show or suggest the invention as claimed. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Randol W. Read
Registration No. 43,876
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicants